**Name of the Teacher: Rajni Gupta**

**Class: B.Sc-5th Semester**

**Lesson Plan**

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| **S No** | **Period** | **Topics to be Covered** | **Academic Activity to be Organized** |
|  | **17-31 July 2017** | **Finite Differnce Operators and their relations, Interpolation with equal intervals** |  |
|  | **01-31 Aug 2017** | **Interpolation with unequal intervals, Central Differences, Probability distribution (Binomial distribution, Poisson’s distribution)** | **Surprise Test** |
|  | **01-30 Sept 2017** | **Probability distribution ( Normal distribution), Numerical Differentiation, Eigen Value Problems** |  |
|  | **01-31 Oct 2017** | **Numerical Integration, Numerical solution of ordinary differential equations (Taylor’s series method, Euler’s method, Modified Euler’s method, Runge-Kutta Methods)** | **Class Test** |
|  | **01-13 Nov 2017** | **Picard’s method, Predictor-corrector methods** | **Discussion on Last Year’s Question Papers** |

**Topics of Assignments/ Class Tests to be given to the Students:**

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| **Assignment 1** | **No Assessment so not required** |
| **Assignment 2** |
| **Class Test** |

**Class: B.Sc-3rd Semester**

**Lesson Plan**

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| **S No** | **Period** | **Topics to be Covered** | **Academic Activity to be Organized** |
|  | **17-31 July 2017** | **Composition and resolution of force** |  |
|  | **01-31 Aug 2017** | **Parallel forces, Moments , couples, Analytical conditions of equilibrium of coplanar forces** | **Surprise Test** |
|  | **01-30 Sept 2017** | **Friction, Virtual work, Forces in 3D, Poinsot’s central axis** | **Assignment-1,** |
|  | **01-31 Oct 2017** | **Wrenches, Null lines and Planes, Centre of gravity** | **Class Test , Assignment-2** |
|  | **01-13 Nov 2017** | **Stable and unstable equilibrium** | **Discussion on Last Year’s Question Papers** |

**Topics of Assignments/ Class Tests to be given to the Students:**

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| **Assignment 1** | **Moments, Parallel forces** |
| **Assignment 2** | **Wrenches, Null lines and Planes** |
| **Class Test** | **Composition and resolution of force, Parallel forces** |

**Class: B.Sc- 1st Semester (Sec-A + B )**

**Lesson Plan**

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| **S No** | **Period** | **Topics to be Covered** | **Academic Activity to be Organized** |
|  | **17-31 July 2017** | Symmetric, Skew symmetric, Hermitian and skew Hermitian matrices. Elementary Operations on matrices, Rank of a matrices |  |
|  | **01-31 Aug 2017** | Inverse of a matrix. Linear dependence and independence of rows and columns of matrices. Row rank and column rank of a matrix. Eigenvalues, eigenvectors and the characteristic equation of a matrix. Minimal polynomial of a matrix. Cayley Hamilton theorem and its use in finding the inverse of a matrix | **Board Test** |
|  | **01-30 Sept 2017** | Applications of matrices to a system of linear (both homogeneous and non– homogeneous) equations. Theorems on consistency of a system of linear equations. Unitary and Orthogonal Matrices, Relations between the roots and coefficients | **Assignment-1,** |
|  | **01-31 Oct 2017** | Solutions of cubic equations (Cardon’s method), Biquadratic equations and their solutions, Common roots and multiple roots. Transformation of equations | **Class Test , Assignment-2** |
|  | **01-13 Nov 2017** | Bilinear and Quadratic forms, Nature of the roots of an equation Descarte’s rule of signs | **Discussion on Last Year’s Question Papers** |

**Topics of Assignments/ Class Tests to be given to the Students:**

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| **Assignment 1** | **characteristic equation of a matrix** |
| **Assignment 2** | **Relations between the roots and coefficients, Transformation of equations** |
| **Class Test** | **Rank of a matrix** |

Class: B.Sc- 1st Semester (sec- C)

**Lesson Plan**

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| **S No** | **Period** | **Topics to be Covered** | **Academic Activity to be Organized** |
|  | **17-31 July 2017** | Sphere: Plane section of a sphere |  |
|  | **01-31 Aug 2017** | Sphere through a given circle, Intersection of two spheres, radical plane of two spheres. Co-oxal system of spheres Cones. Right circular cone, enveloping cone and reciprocal cone. |  |
|  | **01-30 Sept 2017** | Cylinder: Right circular cylinder and enveloping cylinder, Plane sections of conicoids | **Assignment-1,** |
|  | **01-31 Oct 2017** | Confocal conicoid, Reduction of second degree equations | **Class Test , Assignment-2** |
|  | **01-13 Nov 2017** | Generating lines. | **Discussion on Last Year’s Question Papers** |

**Topics of Assignments/ Class Tests to be given to the Students:**

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| **Assignment 1** | **Sphere** |
| **Assignment 2** | **The Conicoid** |
| **Class Test** | **Sphere** |